

FULL NAME	DUTY TO COOPERATE	LEGALLY COMPLIANT	SOUND	WHICH PART	WHICH PARAGRAPHS	WHICH POLICY	WHICH POLICY MAP	WHICH DIAGRAM	WHICH TABLE
Mr David McGrath	No	No	No	Policy		Open space needed for the health and wellbeing of residents during pandemics Policy EV9 Open Spaces, Sport and Recreation 4(2) Not sound, not positively prepared			

WHY PLAN NOT SOUND	MODIFICATIONS	HEARINGS	HEARING SESSIONS
There is no mention in EV9 of the need to provide additional open space to support the health and wellbeing of residents during the series of lockdowns we have endured and quite likely to continue enduring into the future. Surely this is the time to look at how we meet the shortfalls for existing residents?	<p>The Council is ignoring the wellbeing of residents by not meeting the open space provisions of the Open Spaces Strategy. Policy EV9 must include a plan of action that will meet the open space provisions of the Open Spaces Strategy by the end of the Local Plan period.</p> <p>Reference</p> <p>New Scientist, 'Green spaces aren't just for nature – they boost our mental health too', March 2021, https://www.newscientist.com/article/mg24933270-800-green-spaces-arent-just-for-nature-they-boost-our-mental-health-too/#ixzz7391vfh49https://www.newscientist.com/article/mg24933270-800-green-spaces-arent-just-for-nature-they-boost-our-mental-health-too/</p> <p>?</p>	No	

Green spaces aren't just for nature – they boost our mental health too

We're beginning to understand just how vital access to natural space is for our mental well-being – with implications for how we design cities worldwide

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By [Kate Douglas](#) and [Joe Douglas](#)



Crowds fill a park in Essen, Germany, at a summer music festival in 2013
Jochen Tack/Alamy

FROM the Hanging Gardens of Babylon to the orange gardens of Seville, urban planners down the ages have taken inspiration from nature. And those of us living in the concrete and brick jungle have perhaps never appreciated scraps of green space more than during the [covid-19 pandemic](#). During lockdowns, city dwellers across the world have found parks and gardens – where they exist [an unexpected source of calm and joy](#).

That comes as no surprise to the growing number of psychologists and ecologists studying the effects of nature on people's mental health and well-being. The links they are uncovering are complex, and not yet fully understood. But even as the pandemic has highlighted them, it has also exposed that, in an increasingly urbanised world, our access to nature is dwindling – and often the most socio-economically deprived people face the biggest barriers. Amid talk about building

back better, there is an obvious win-win-win here. Understand how to green the world's urban spaces the right way and it can boost human well-being, help redress social inequality and be a boon for the [biodiversity](#) we all depend on.

On evolutionary timescales, urban living is a new invention. Our species has existed for at least 300,000 years, but the [oldest cities](#) are only some 6000 years old. Only recently – little more than a decade ago, according to [figures from the UN Population Division](#) – have we become a majority-urban species. Now the number of us living in cities is booming like never before. By 2050, projections suggest [almost 70 per cent of us will be urban dwellers](#) (see “Urban latecomers”).

Our late arrival into cities might help explain our affinity with nature and green spaces. In 1984, biologist Edward O. Wilson made this connection explicit with his “biophilia” hypothesis. His idea was that the environment in which humans evolved has shaped our brain, priming it to respond positively to cues that would have enhanced survival for our ancestors, such as trees, savannah, lakes and waterways. This, Wilson argued, is why being in nature makes us feel good.

ADVERTISING

Whether that is the reason or not, the past few years have seen an explosion of research finding concrete links between increased exposure to nature and not just improved physical health, but better mental health, too. Mental health issues are estimated to account for as much as a third of all years lived with disability, and account for [around 13 per cent of disability-adjusted life-years \(DALYs\) lost](#), similar to the toll of cardiovascular disease and circulatory disorders.



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The evidence of positive effects from nature includes studies on specific psychological conditions such as [depression](#), [anxiety and mood disorder](#). Access to nature has also been found to [improve sleep and reduce stress](#), [increase happiness](#) and reduce negative emotions, [promote positive social interactions](#) and even [help generate a sense of meaning to life](#). Being in green environments boosts various aspects of thinking, including attention, memory and creativity, in [people both with and without depression](#). “The evidence is very solid,” says psychologist Marc Berman at the University of Chicago.

Complications in comparing studies and saying exactly what’s good for whom makes it hard to distil the effects into an individual prescription (see “[How much nature do I need?](#)”). In the UK’s remote Shetland Islands, however, they are doing just that: since 2018, doctors there have been able to [prescribe nature-based activities](#) such as birdwatching and beach walks to treat mental health conditions and stress, as well as physical conditions such as heart disease and diabetes. They aren’t alone, either: a [review in 2019](#) identified 28 nature-based interventions used in various countries to improve health and well-being, from organised gardening programmes to [forest bathing](#).

If we are to maximise the benefits of nature for the world’s legion of nature-deprived city dwellers, we need to know exactly how they work. Here, too, there appears to be no simple answer.

Urban vegetation can benefit people’s physical health by absorbing harmful airborne particulates and other pollutants produced by fossil fuel-powered transport and industry. It may improve mental health in this way as well. Evidence is emerging that exposure to these pollutants can [damage the central nervous system](#) and is linked with certain [mental health conditions](#) such as depression. Urban vegetation also helps mitigate noise pollution, which causes stress and sleep disturbance.

Paying attention

Another possibility is that the mental health effect is mediated via physical health: [urban residents living near green spaces simply take more exercise](#), which in turn improves their mental health. But most research suggests otherwise. In many cultures, visiting green spaces is less associated with physical exercise than with sedentary social activities, such as picnicking. That could be a source of nature’s benefits in its own right: [socialising can reduce loneliness](#), anxiety and depression. Certainly, being part of a supportive community is good for mental health – and research shows that [attractive public spaces](#) are a catalyst for building cohesive neighbourhoods.

Intriguingly, some well-being effects do seem to be entirely psychological. Just this year, researchers in Switzerland found that simply having a view of nature from your home [can reduce your perception of noise – and the closer the green space](#), the bigger the effect. [Attention restoration theory](#) is the name given to one hypothesis that attempts to explain such effects. It says that everyday focused thinking is cognitively draining, [with negative consequences for mood](#), and that the wide range of stimuli intrinsic to nature provide a restorative sensory environment that alleviates this attention fatigue.

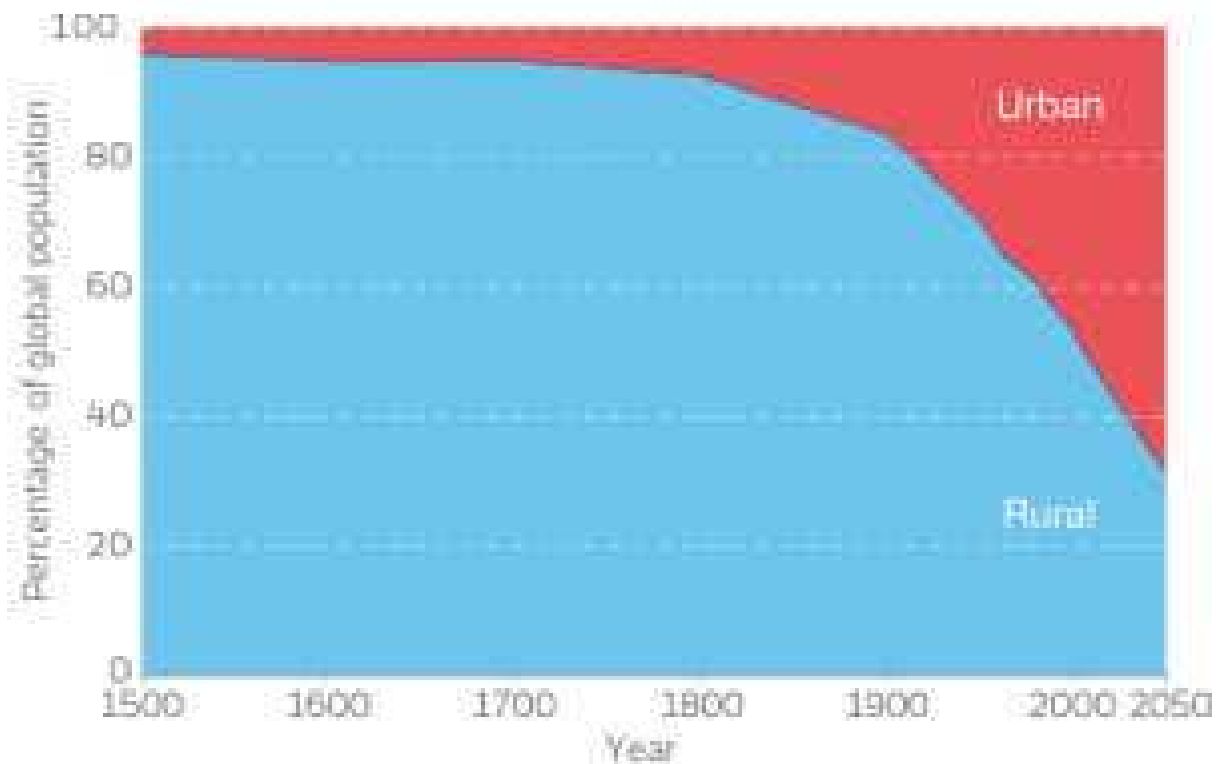
“Some of the well-being effects of nature seem to be entirely psychological”

But that is as yet educated guesswork. “There’s a lot going on. We have to be creative with our studies to try to isolate the different mechanisms,” says Berman.

And it is only half the story. Besides mental health benefits, we know that healthy natural spaces [provide us with a whole range of essential “ecosystem services”](#) for free, from clean air and water to nutrient recycling, flood defence and pollination. Ideally, in designing or reconfiguring urban environments, we should aim to maximise the benefits for biodiversity too. How do we do that?

Urban latecomers

Although the first cities arose some 6000 years ago, it is only in the 20th century that urban living really took off – and only in the past decade or so that humanity became a majority-urban species



SOURCE: OMD-BASED ON UN/WORLD URBANIZATION PROSPECTS 2018 AND HISTORICAL SOURCES

That is always going to be a trade-off because cities occupy land that could be wild, says ecologist Karl Evans at the University of Sheffield, UK. “Urbanisation is a major and increasing cause of global [extinction risk](#),” he says. What’s more, we have a limited understanding of urban ecology upon which conservation-minded planners can draw. In 2017, Evans and his colleagues highlighted some [fundamental questions yet to be resolved](#). These include how large, connected and diverse urban green spaces must be to promote biodiversity. Many animal species need access to different types of habitat to thrive. “It’s not just about the amount, it’s about the quality of those spaces,” says Evans.

He points out that about half the green space in urban environments in the UK is just closely mown grass, a pattern repeated in many Western cities. “You could convert this to meadows or plant more trees,” he says. In a study of urban meadows in the south of England, his team found that people responded more positively to [the more-biodiverse meadows than to mown grassland](#). Similarly, a recent study led by landscape architect Anna Jorgensen, also at the University of Sheffield, concludes that what urbanites, at least in the UK, most value in their [encounters with nature is variety](#).

We still don’t know whether increased biodiversity equates to increased mental health benefits for urban dwellers. But incomplete as these findings are, they nevertheless make a strong case for greening cities. “People think of nature as being an amenity, not a necessity,” says Berman. “But we all need it and we need to take it very seriously.” Environmental engineer Anu Ramaswami at Princeton University agrees. She says green public spaces are one of [seven key provisioning systems in cities](#), along with shelter, water, food, energy, connectivity and sanitation. “I think they are exactly on par,” she says. “People need green spaces.”

This is something that enlightened urban planning has long taken to heart, from the UK’s Garden City movement at the turn of the 20th century to the recently announced plan to turn Paris’s [Champs-élysées](#), currently a busy thoroughfare, into a green oasis. Our evolving understanding of nature’s broad health benefits, plus our ongoing pandemic experience, is a wake-up call to apply that lesson more widely.

“The pandemic has shown that we don’t have enough [access to nature],” says Berman. That is especially true for people in more deprived socio-economic groups. “Access to green infrastructure is very income-based,” says Ramaswami. A [recent survey by Natural England](#), for example, found that children from low-income families spent less time outside in green spaces during the pandemic than children from higher-income families.

Meanwhile, a study by Berman and his colleagues in Toronto, Canada, found that [adding just 10 trees to a city block](#) has a huge impact on people’s perceptions of their health and well-being, equivalent to the effect of earning \$10,000 more per household. If urban greening were an investment priority, it needn’t take much to have a big impact, with the most disadvantaged benefiting the most.



Even minimal green spaces, such as under this overpass in Osaka, Japan, boost our mental well-being

Nick Hannes/Panos Pictures

So, what does an ideal green city of tomorrow look like? “I would think of compact, walkable cities,” says Ramaswami. “You want four or five-storey buildings in a liveable fabric. That’s the base. Then you include green spaces that are accessible and equitable.” Berman says it is important to make green spaces multipurpose so they meet a variety of needs. He also favours incorporating more natural elements into the built environment, such as green roofs, and even designing buildings that mimic patterns found in nature such as curves and fractals. Research [using eye-trackers indicates that people are drawn to such shapes](#), and Berman thinks there is something about the way our brains process the aesthetic of nature that is comforting.

Advocating for nature itself, Evans’s utopia is quite similar, emphasising building compactly to minimise the amount of land taken by cities. “A model green city for me would be one that was relatively densely packed,” he says. “But the green space within it would be highly connected and extremely high quality and, crucially, highly accessible to all sectors of society.”

Realising such visions won’t be easy. Evans says it is incredibly hard to retrofit existing cities to match his ideal, and he doubts that new urban areas will be built with such a brief in mind. “I don’t think biodiversity conservation needs are given high enough priority to make that a realistic prospect,” he says.

But Ramaswami is more optimistic. She notes that the trend for urban greening has already begun, pointing to some inspiring examples in the US, including the [Million Trees Los Angeles initiative](#) and an ambitious [greening programme](#) in New York.



People use green spaces for physical and social activity, here tai chi in Taiwan
mixetto/Getty Images

This isn't just a richer-world phenomenon, either. Most urban growth in the next decades will occur in lower-income nations. The [Milan Urban Food Policy Pact](#), which aims to increase urban gardening around the world, has 211 cities signed up, many in Africa, South America and South-East Asia. China's Ministry of Ecology and Environment, established in 2018, has made fighting pollution one of its three critical battles, [spurring the building of parks](#), green spaces and wildlife corridors in many cities. Admittedly, lower-income countries face many challenges in building greener cities, but they can learn from the mistakes already made in older-growth cities in the West, says Ramaswami. "There's a lot of opportunity for sustainability in developing cities," she says.

Urban greening

Some researchers are thinking of new ways to get policy-makers across the world to value nature more. Biologist Gretchen Daily at Stanford University in California pioneered the concept of [ecosystem services](#) as a way of evaluating the benefits nature provides and factoring these values into economic decision-making. In conjunction with Berman and others, she published a paper in 2019 outlining how this approach could be used to [put a price on the mental health benefits](#) of nature in cities. "The intense pressure on urban land means we need to invest strategically," she says. Daily has founded the [Natural Capital Project](#), which offers free science-

based computer programs to guide such investments. “Software modules on health are being tested now for release in the first half of 2021,” she says.

“How we plan cities now will affect the well-being of billions in the future”

But it will take more than policy-makers to push urban greening up the agenda. “We need a grassroots movement,” says Berman. Community involvement ensures that different cultural and local needs are met, says Ramaswami. “You want the imagination of those people in those communities to think of their own vision.”



geotif/Getty Images/iStockphoto

In some parts of the world, that is already happening: the economically disadvantaged favelas of Rio de Janeiro in Brazil, for example, are home to a burgeoning [forestation movement](#). A common problem, however, is that people don’t know about the benefits of nature, says Berman. “Scientists need to work a bit harder to get out of the ivory tower, to get their message across,” he says. “It’s important to talk to communities. It’s not going to work to be paternalistic.”

And it isn’t just about knowledge: people need to also experience the effect that urban green spaces have on their sense of well-being. “If we can do interventions where we can encourage people to try it, then I think they will buy in,” says Berman.

That is why the pandemic could be such a powerful force for change. “Our planning – today and into the future – will affect the well-being of billions of people,” says Daily. And if we can build back greener, that will create a virtuous circle. Recent studies from both [China](#) and [England](#) find that feeling more connected with nature makes people more likely to adopt positive environmental behaviours. If so, then greener

cities won't just improve the mental health of their residents, but also focus our minds on the needs of nature beyond our urban jungles.

HOW MUCH NATURE DO I NEED?

When it comes to pinning down the link between well-being and access to nature, there are big confounding factors. To begin with, what is psychological well-being? The [World Health Organization defines mental health](#) as “a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community”. That is hard to quantify.

Then there is the question of what “access to nature” means. Some studies measure passive access, or how much green space is available in someone's local area. Others look at active access, which is the actual exposure a person gets to green space. [That makes it difficult to compare results](#) and build a coherent picture.

A few researchers have tried to assess what the appropriate dose of nature might be. [A 2019 study](#) involving almost 20,000 participants in England concluded that at least 120 minutes a week of recreational nature contact was associated with good health or well-being. The team, led by Mathew White at the University of Exeter, UK, found that the effect peaks at between 200 and 300 minutes a week, with people reporting no further gain after that.

What exactly this means for you – or any individual – is unclear. As other studies indicate, the [mental health benefits](#) a person gets from access to nature are likely to be influenced by myriad factors, including age, gender, personality traits, personal preferences and socio-economic status. Your culture matters too – and, so far, most research into the well-being effects of nature has been done in Western societies.

Read more: <https://www.newscientist.com/article/mg24933270-800-green-spaces-arent-just-for-nature-they-boost-our-mental-health-too/#ixzz73DcPMlGF>